WirelessEstimator.com has been requested by the undersigned, Mr. Timothy Kearns, to submit his comments and recommendations to the Federal Communications Commission regarding:

WT Docket No. 03-187, FCC 06-164, Notice of Proposed Rulemaking, "Effects of Communication Towers on Migratory Birds"

The information presented thus far is so fragmented; it is a task all in itself to coherently address the issue.

With limited factual data to base a decision on, first and foremost, it is the FCC's responsibility to require that non biased scientific studies be established, and that all pertinent data is collected and analyzed to determine the environmental impact, if any, as it pertains to migratory birds, and their frequency of collision in correlation to the size, type and marking characteristics of antenna structures.

First, a standard of testing needs to be established, and merged with a history of migratory patterns in the areas to be observed, so an approximate baseline can be established for reference.

This standard should be developed by a group comprised of appointed representatives from both sides, with a willingness to accept that there exists no one solution that will solve this conflict, but through a summation of data collected in a standardized format, an effective resolution can be instituted.

In addition to the historical patterns, there are relevant environmental issues that should also be investigated:
1. The elimination or relocation of wetlands within the migratory path, and their effects on patterns.
2. Weather related trends that may cause adjustments in the migration times.
3. Commercial, industrial or tract development interrupting the path.

A growing trend in municipal regulation, as it pertains to antenna structures, includes the restriction of new structures to areas set aside by them. In addition, wetland relocations and habitat recreations are directed to undesirable or undevelopable properties, often already occupied by large broadcast structures that require a large amount of acreage for their footprint. Municipal zoning authorities need to take into consideration while hearing cases for new structures, the potential for accommodating future carriers, and the exhaustion of all feasible options in the area.

Once a standard has been accepted and implemented, a series of controlled modifications should be instituted to help determine which potential resolutions will net the most positive impact, with the least amount of economic burden.

Although environmental impact should be a primary focus, there exists the potential for social and economical impacts of immeasurable proportions. The dependence upon communication in our society, has elevated to a level never imagined.

The imposition of exorbitant costs, as related to the construction of new, or retrofitting of existing structures, can and will create an escalation in the cost of doing business that will be felt by all forms of industry, and passed on to the consumer in multiple forms.

Consider the impacts:
The additional expense associated with erecting a 600' self support tower, as compared to a guy tower, the average difference in costs is around $400,000.00, or having to build 3 transmitting sites at 250' as opposed to 1 at 600', which will increase the broadcaster's operational expenses, causing advertising time slots to increase in price, which in turn will raise the price of saleable goods.

Municipal departments such as Public Safety and Transportation services and support will incur increased costs to update and maintain their communications equipment, resulting in an increase in tax based support required from civilians.

The telecommunications industry, both wired and wireless, will be effected on multiple levels: costs of mobile phone usages could double with the prospect of having to construct multiple sites at lower elevations, where one would have sufficed, so that requirements established governing coverage, along with sales driven demand can be met.

In turn, a large portion of the wired industry's revenue is generated from the sales of dedicated services rendered to the wireless carriers. The dependency of one on the other could cause a considerable increase in the cost of essential utilities, again causing a ripple affect felt by all; consumers will incur an increase in cost for their own services, as well as sharing the expenses incurred by all forms of industry, passed down through higher consumer pricing. The remainder of the utility-service-providing-industries will be affected in much the same way, as all of them rely on these structures to provide both communications and monitoring capabilities for remote locations, used in production and storage of resources.

Microwave paths provide backhaul for long distance carriers, government entities, through terrain where other forms of communication are not financially viable, such as the Alaskan pipeline.

Statewide wireless networks, designed to enhance public service response capabilities by providing real time positioning and data services to field personnel during both day to day operations and emergency situations where every second could save lives and or precious resources, could fall by the wayside due to excessive cost overruns or be built with substandard coverage, defeating the point of the entire system.

The FAA relies on these same structures to support services associated with boundary markers, and collision avoidance systems operating in remote areas where line of site backhauls are the only form of communication available.

Take one whole day and consider how many objects or tasks you encounter that are not connected to this utility either directly or indirectly, and consider how devastating the impact of a 300% increase in the cost of doing business on vertical real estate could be.

Things to investigate:
Most species respond to different stimulations or over stimulations of senses causing them to alter behavioral patterns. If a form of ultra sound is found to be effective, a virtual safety fence could be generated around areas of concern, diverting the birds flight away from danger.

The addition of a tone generating object to an existing beacon system, if such an object was proven to be effective, would be a more viable retrofit than replacing a fully functioning lighting package at costs that can exceed $150,000.00. Directional filters for existing systems may also be a reasonable alternative, providing credible data validates it as a contributing cause.

Particular attention needs to be paid to the frequency of recorded accidents, and the differences in meteorological conditions as they pertain to visibility, and instinctual navigation.

If it is proven that the lights are a navigational lure causing collisions in low visibility conditions, alternative markings can be implemented such as, directional lighting up through the tower, in conjunction with reflectors, to create an illumination or glow like effect over the entire structure. This lighting can be limited to operating under weather conditions where normal systems prove to be a detriment.

The complete shutdown of the system during conditions that have been proven to cause an unacceptable frequency of collisions, supported by the addition of an electronic beacon identifiable by aircraft drawing attention to the structures' location and elevation in relationship to their current flight path.

Guy wires could be identified with directional lighting mounted at the anchor aimed directly up the guy path and a reflective coating or tape applied at staggered intervals, with the technology of today, the ability to manufacture a guy cable with an illuminant fiber optic core, or coating could be used to replace one wire at each level. As with high powered transmitters, the use of fiberglass guys in the areas that effect transmission, incandescent insulators could be used to identify wires.

Are the birds drawn to one particular frequency block more than others, or a higher power level? These are also variables that may be masked or manipulated to provide a less inviting habitat. Can we de-tune the structure, altering the frequency of its structural components therefore eliminating a pitch or resonance if it is a contributing factor, and its modification results in a positive impact proportional to the fiscal liability involved?

Our industry, as a whole, has engineered, field fabricated, and instituted processes resulting in structural marvels capable of withstanding the harshest of weather conditions, at times rendering hundreds of feet of steel invisible to the untrained eye, changing the harmonic characteristics of structural steel to become invisible to a specific frequency, and the list goes on.

In lieu of our past accomplishments, I believe given a substantiated compilation of facts and figures, as they relate to this alleged environmental issue, that the people who build, engineer, upgrade, maintain, and manufacture these structures on a daily basis, would return effective alternatives that would suit the needs of both parties in a modest time frame.

In conclusion:
Given facts and figures born of research governed by an accepted standard, tailored to produce data pertinent to the issues at hand, with the controlled interjection of modifications in which the desired result would be the identification of a process, producing the greatest impact environmentally, while maintaining economic impacts

that can be absorbed without substantial increases in cost, that can ripple through multiple layers of industry impacting the consumer level exponentially.

As I do consider myself an environmentally-conscious individual, I believe that if a destructive condition has been created by negligence or a general lack of regard for the ecosystems inhabiting areas where we place these structures, that we should be willing to burden a portion of the costs that are associated.

However, my experience in this industry makes me believe that the inconsistencies and lack of forethought by both municipal regulatory bodies, and engineers, allowed the senseless construction of structures designed to serve only one provider's needs, when in fact there were four more requesting approvals, all within a miniscule distance of the other.

The institution of regulations restricting the approval of new structures, unless a minimum set of specifications are met, which allow for the addition of multiple carriers, and requiring replacement for multiple single carrier structures built one right next to another for one that will accommodate all. The time has come for the FCC to establish a criteria that can be implemented on a national level, allowing local jurisdiction to apply restrictions more stringent than the national guidelines, but nothing below that standard. The local jurisdictions lack industry related knowledge, and qualified individuals with exposure to multiple levels of the industry, resulting in rulings that appear to be short sighted.

The FCC should consider the necessity of an environmental impact study regarding migratory birds. After the completion of these studies, an up-to-date database will be compiled and validated, allowing for known areas of concern to be flagged for review, or listed as unacceptable for structures exceeding a given height or limiting the types of structures allowed. I do believe that the completion of this study, although cumbersome in cost, would prove to be a victory for the tower industry, as no data presented to this point validates the levels of severity implied by politically motivated activists whose true agenda remains unspoken. These self imposed regulations will leave NIMBY groups and their spin offs, lacking the necessary ammunition to take up arms with the level of credibility needed to gain attention.

How far are they willing to go? Do the activists lobbying our government officials, presenting information that lacks consistency and validation, possess the conviction to see this through?

Will they allocate donated funds to support in the costs associated with conducting such an enormous and abstract study, with an inordinate amount of variables to consider, and a timeline likely to exceed two years, or are their funds strictly allocated for the enlistment of political pawns, and the study of dead birds?

Will they retract their public statement of refusal to accept any offer of compromise from our side, or shall the FCC abandon its economic responsibility to the industry it governs, and the nation it serves, based on the findings of a biased, uncontrolled study of dead birds found on tower sites?

Are they willing to concede the point that although each species inhabiting this planet is precious, there will always be an unpreventable number of collisions, relevant to the coexistence of modern man and nature?

It is my request of the FCC, that we take this opportunity to present a scientifically substantiated report, in response to allegations bolstered by manipulated data, and publicized incidents embellished upon for political gain. In addition to this study I request the formation of a committee to investigate the implementation of a set of minimum standards, reducing industry exposure to future attacks of this nature.

Respectfully,
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